

Remarks/Arguments

The claims have been amended to better represent the scope of the invention. Claim 7 has been added and is based on information in the specification as originally filed on page 5, lines 22-28. No new matter has been added.

35 U.S.C. §103

Claims 1 and 3-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Badger et al., (US Pat. #5,739,847) in view of Limberg. (US Pat. #5,748,226).

It is submitted that combination of Badger et al., and Limberg does not teach or suggest a "means for determining the presence of said interference" as recited by the current claim 1. As was noted by the examiner in part 3 of the office action, these limitations are not anticipated or rendered obvious by Badger or Limberg, either singularly or in combination.

The present invention recites a means for *determining the presence* of an interference. In the exemplary embodiment taught in the specification, this means is a microprocessor which receives a signal from an AGC circuit regarding the signal power of the interference. When the signal power is less than a predetermined threshold, a frequency shifting operation is performed by the microprocessor. When the signal power is greater than a predetermined threshold, a frequency shifting operation is not performed by the microprocessor. (page 5, lines 22-28). Therefore, for this operation to function correctly, the means for determining must be able to determine whether an interference is present. The presence of this interference is conveyed to the microprocessor, which functions in response to this information.

The examiner points to Limberg's teaching of a trap filter located in the front end electronics. Specifically, Limberg teaches, at column 7, lines 40-48: "any co-channel interfering analog TV signal can also be trapped filtered in the "front end" electronics. For example, a SAW filter can be used to select the frequency-modulated sound carrier of any co-channel interfering analog TV signal from an I-F signal, and the SAW filter response can be destructively combined with that I-F signal to generate I-F signal substantially free from frequency-modulated sound carrier of any co-channel interfering analog TV signal."

It is respectfully submitted that the addition of a filter in the front end of a tuner cannot remotely suggest "a means for determining" as recited by the present claim 1. The Merriam-Webster online dictionary (<http://www.m-w.com/dictionary/filter>) defines filter as:

3 a : a device or material for suppressing or minimizing waves or oscillations of certain frequencies (as of electricity, light, or sound)

A filter suppresses signals, and alone does not determine if the signal is present or not. Limberg teaches suppression of co-channel interference through utilization of a trap filter, but does not remotely suggest detecting the presence of the signal or providing the presence or absence of the interference determined by said determining means to a frequency conversion stage.

It is submitted that combination of Badger et al., and Limberg does not teach or suggest a

"frequency conversion stage, coupled to said tuner, for converting in frequency the digital signal to an intermediate frequency (IF) signal to be output, where the center frequency of said IF signal is capable of being switched to a nominal frequency corresponding to the selected broadcast channel or to a second frequency being shifted from said nominal frequency in accordance with the presence or absence of said interference determined by said determining means"

as recited by the current claim 1.

The present invention teaches a system where the IF signal can operate at a first frequency or a second frequency in response to the determination of the presence or absence of an interference. This capability, as explained in an exemplary embodiment (page 2, lines 23-28) provides that the IF signal can be pushed further towards the band edge of filter, thereby further attenuating an adjacent interference if such interference is determined to be present. If no interference is present, the IF signal is adjusted to a predetermined nominal operating frequency with respect to the filter. This has the desirable characteristic of providing greater attenuation to adjacent interference when such interference is present, and providing optimal attenuation to the IF signal when such interference is not present.

Badger teaches a system where the LO frequency of a satellite tuner operates in a "fine tuning" mode to fine tune the IF frequency of an incoming signal such that the IF frequency of the incoming signal matches up with the nominal center frequency of IF SAW filter. Badger in no way teaches or remotely suggests a frequency

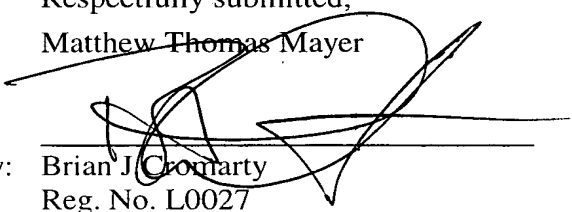
conversion stage wherein "the center frequency of said IF signal is capable of being switched to a nominal frequency corresponding to the selected broadcast channel or to a second frequency being shifted from said nominal frequency in accordance with the presence or absence of said interference determined by said determining means" as recited by the present claim 1.

It is therefore submitted that the present claim 1 is allowable and such action is respectfully requested. Furthermore, it is submitted that independent claim 5 is allowable for at least the same reason that claim 1 is allowable and such action is respectfully requested. Since dependant claims 2-4, and 6-7 are dependant on allowable claims 1 and 5, it is submitted that they are allowable for at least the same reasons that claims 1 and 5 are allowable and such action is respectfully requested.

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's representative at (609) 734-6804, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,
Matthew Thomas Mayer

By: 
Reg. No. L0027
Phone (609) 734-6804

Patent Operations
Thomson Licensing Inc.
P.O. Box 5312
Princeton, New Jersey 08543-5312
January 23, 2006